

**IN THE DRAWINGS**

The attached sheet of drawings includes changes to Figs. 1 and 2a. This sheet, which includes Figs. 1, 2a-b, replaces the original sheet including Figs. 1, 2a-b.

Attachment: Replacement Sheet

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1, 3-9 are presently active in this case. The present Amendment amends Claims 1, 3-7; cancels Claim 2 and adds Claims 8-9.

The outstanding Office Action objected to the specification and drawings because of informalities. Claim 1 was rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Claims 1-7 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 1-5 and 7 were rejected under 35 U.S.C. § 103(a) as unpatentable over Bernardon et al. (U.S. Patent No. 5,464,337) in view of Bach et al. (U.S. Patent No. 5,000,673).

Claim 6 was indicated as allowable if rewritten in independent form. Applicant acknowledges with appreciation the indication of allowable subject matter.

In response to the objections to the specification, the specification is amended to correct the noted informalities. In particular, the specification is amended to clarify the meaning of the distances L and L<sub>r</sub>. Support for these changes can be found, for example, at page 4, lines 1-4 and in Figs. 1-2.

In response to the objection to the drawings, submitted herewith is a Letter Submitting Replacement Drawing Sheets along with one Replacement Sheet for Figs. 1-2a-b replacing reference “5” with reference “4” in Fig. 1 and adding lead lines for the distance L<sub>r</sub> to Fig. 2a in order to better identify it.

In response to the rejection under 35 U.S.C. § 112, first paragraph, Claim 1 is amended to recite the term “sealing cord” instead of a “sealing roller,” as suggested by the Examiner.

In response to the rejection under 35 U.S.C. § 112, second paragraph, Claim 1 and 3-7 are amended to correct the noted informalities and to comply better with U.S. claims drafting practice. In view of the amended claims, it is believed that all pending claims are definite and no further rejection on that basis is anticipated. If, however, the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work with the Examiner in a joint effort to derive mutually acceptable language.

In order to clarify Applicant's invention, Claim 1 is amended to recite the limitations of Claim 2 and to further require the first traverse and the first drive to be installed on the lower slab. This feature finds non-limiting support in the disclosure as originally filed, for example in Figs. 3-4.

In order to vary the scope of protection recited in the claims, new dependent Claims 8-9 are added. New Claims 8-9 find non-limiting support in the disclosure as originally filed, for example at page 5, lines 18-24 and page 6, lines 3-5. Therefore, the changes to the claims are not believed to raise a question of new matter.<sup>1</sup>

In response to the rejection of the claims under 35 U.S.C. §103(a), and in light of the present Amendment, Applicant respectfully requests reconsideration of this rejection and traverses the rejection, as discussed next.

Briefly recapitulating, Applicant's invention, as recited in Claim 1, relates to a device for sheet material corrugation. The device includes a removable vacuum chamber, which includes a transformable mandrel with a plurality of plane elements pivotally connected with each other, a sheet of gas-proof material, and a sealing cord. The device further includes means for performing a preliminary mandrel transformation; means for performing a final mandrel transformation including a first traverse with a first drive providing a plane-parallel

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<sup>1</sup> See MPEP 2163.06 stating that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter."

travel for the first traverse. The device also includes a mechanism for putting the transformable mandrel into an initial plane state. This mechanism includes a lower slab and an upper slab parallel to each other and located one over another on both sides of the transformable mandrel and a drive providing their reciprocal travel. Claim 1 further requires that the means for performing the preliminary mandrel transformation include two systems of pusher rows installed correspondingly on the lower and upper slabs. In Addition, the first traverse and the first drive are installed on the lower slab.

Turning now to the applied prior art, the Bernardon et al. patent discloses a resin transfer molding system that includes a mold surface 32, a sealable chamber 34 with frames 33 and 35 holding flexible diaphragms 36 and 38, respectively, forming outer reconfigurable tooling surface 40 and inner surface 42 surrounding a workpiece 44.<sup>2</sup> The workpiece 44, as seen in Fig. 5, may include release material 70 such as a release film disposed about fibrous reinforcing material 46 for preventing inner surface 42 from adhering to the fibrous reinforcing material 46.<sup>3</sup>

As acknowledge by the outstanding Office Action, the Bernardon et al. patent fails to disclose the claimed pivotable plane elements for the mandrel.<sup>4</sup> Applicant's claims are rejected based on the proposition that the Bach et al. patent discloses this feature, and that it would have been obvious to modify the Bernardon et al. device by importing this feature from the Bach et al. patent to arrive at Applicant's claimed invention.<sup>5</sup>

Applicant respectfully request reconsideration of the outstanding rejection because the Bernardon et al. patent fails to disclose more than the claimed pivotable plane elements of the mandrel, as required by amended Claim 1. In particular, the Bernardon et al. patent fails to

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<sup>2</sup> The Bernardon et al. patent at column 5, lines 6-10.

<sup>3</sup> The Bernardon et al. patent at column 6, lines 13-16.

<sup>4</sup> See outstanding Office Action from page 5, lines 1-3 from the bottom.

<sup>5</sup> See outstanding Office Action from page 6, lines 1-7 from the bottom.

disclose the claimed removable vacuum chamber that includes a transformable mandrel with a plurality of plane elements pivotally connected with each other, a sheet of gas-proof material, and a sealing cord. The Bernardon et al. patent further fails to disclose a mechanism for putting the transformable mandrel into an initial plane state, and the means for performing a preliminary mandrel transformation including two systems of pusher rows installed correspondingly on the lower and upper slabs, as required by amended Claim 1. The Bach et al. patent does not remedy these deficiencies. Therefore, even if the combination of the Bernardon et al. patent and the Bach et al. patent is assumed to be proper, the combination fails to teach every element of the claimed invention. Accordingly, Applicant respectfully traverses, and requests reconsideration of, this rejection based on these patents.<sup>6</sup>

The combination of the Bernardon et al. patent and the Bach et al. patent also fails to disclose a removable vacuum chamber that includes two gas-proof sheets connected to each other by a sealing cord along edges of the two gas-proof sheets so as to provide a seal between the two gas-proof sheets, and wherein the transformable mandrel is enclosed between the two gas-proof sheets, as required by new dependent Claim 8.

Further, there is no apparent reason to modify the teachings of the Bernardon et al. patent combined with those of the Bach et al. patent in order to arrive at Applicant's claimed device.<sup>7</sup>

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in

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<sup>6</sup> See MPEP 2142 stating, as one of the three “basic criteria [that] must be met” in order to establish a *prima facie* case of obviousness, that “the prior art reference (or references when combined) must teach or suggest all the claim limitations,” (emphasis added). See also MPEP 2143.03: “All words in a claim must be considered in judging the patentability of that claim against the prior art.”

<sup>7</sup> See *Ex Parte Smith*, at page 14 (citing *KSR*, 127 S.Ct. at 1740-41, 82 USPQ2d at 1396.).

condition for formal Allowance. A Notice of Allowance for Claims 1 and 3-9 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



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Philippe J.C. Signore, Ph.D.  
Attorney of Record  
Registration No. 43,922

Customer Number  
**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 08/07)